SEATTLE UNIVERSITY

# INITIAL cONCEPTS FOR DESIGN OF BACHELOR OF SCIENCE IN STEM AREAS

Rationale.

Sufficient and credible data at both the State and national levels indicate that teacher-candidates prepared at the Master’s degree level preform superior to those candidates prepared as undergraduate. Of these data, there is a preponderance of evidence suggesting that both adult maturity and candidate commitment play key roles in such outcomes. These data support Seattle University’s position of preparing teachers at the graduate level only.

Beginning in 20010 and becoming critical in 2015, the shortage of competent new teachers, especially in the areas of mathematics and science, has resulted in 1) classrooms being staff by under- or ill-prepared teachers or 2) reduction in the number of STEM courses offered at middle and high schools. This reality and the consequences for students who need the most powerful teachers possible, caused Seattle University to reconsider its earlier decision to prepare STEM teachers only at the graduate levels.

Finally, consistent with mission elements of the University, the College of Education and the College of Arts and Sciences, strive to be of service to the community in which the University resides. The Seattle School District and other surrounding districts have clearly and consistently stated that an immediate increase in the number of STEM teachers is imperative.

Goal/OUTCOMEs: numbers, diversity, COLLABORATION

Number of candidates.

With the execution of a Bachelor of Science Degree in mathematics and science with accompanying teacher certification at the middle and high school levels, Seattle University will prepare a minimum of 15 STEM teachers by 2019. Each year thereafter the University will graduate 15-20% more candidates per year.

Diversity of candidates.

In recruiting and selecting candidates for the STEM program, the University and its public and private school partners will enhance and diversify recruitment efforts to inform and attract a larger number of men and women of color. The goal for STEM teachers who represent multiple cultures is 20% of the entering class of 2019. Thereafter, an increase of 5% per year is anticipated.

Collaboration.

The design, development, implementation and evaluation of the STEM BAS with teacher certification will be the result of join collaborative efforts among the University, Colleges and departments within the University, the Seattle School District (and other school districts post 2019), the WEA, and other specialists who can contribute to meeting project goals.

## initial design elements

1. Candidates are successfully enrolled in major in STEM area (math/science, 2019) and accepted into STEM program

1. Course content in math or science to be followed by EDLABS once per week for 2 hours.

Courses taught or co-taught with SU faculty: District content specialist; specialist in middle and high school pedagogy and instruction. FALL/WINTER/SPRING

1. Content coursework of the week is aligned with middle and high school standards
2. Pupil instructional options explored
3. Pupil monitoring strategies discussed
4. Pupil remediation strategies discussed
5. Strategies to engage ELLs
6. Rubrics aligned with EdTPA
7. DEVELOPMENTAL SEMINARS (4 levels)
8. Year 3, Fall: Level 1 Assessment[[1]](#footnote-1), Management, Literacy and ELL (4 two-hour sessions)
9. Year 3, Winter: Level 2 Assessment, Management, Literacy and ELL (4 two-hour sessions)
10. Year 3, Spring: Level 3 Assessment, Management, Literacy and ELL (4 two-hour sessions)
11. Year 4, Winter: Level 4 Assessment, Management, Literacy and ELL (2 two-hour sessions)
12. Year 4, Spring: (open for previously non-identified requirements)
13. CANDIDATE ASSESSMENT will contain both knowledge and application competencies. Professional knowledge and dispositions will be assessed 2 of 3 semesters each year.

1. SUMMER EXPERIENCES will be developed for candidates as needed.

ISSUES TO BE EXPLORED

1. Stipends for candidates from the district tied to service commitment
2. Candidate transportation needs

1. Includes candidate assessments such as EdTPA, TEP, etc. [↑](#footnote-ref-1)